

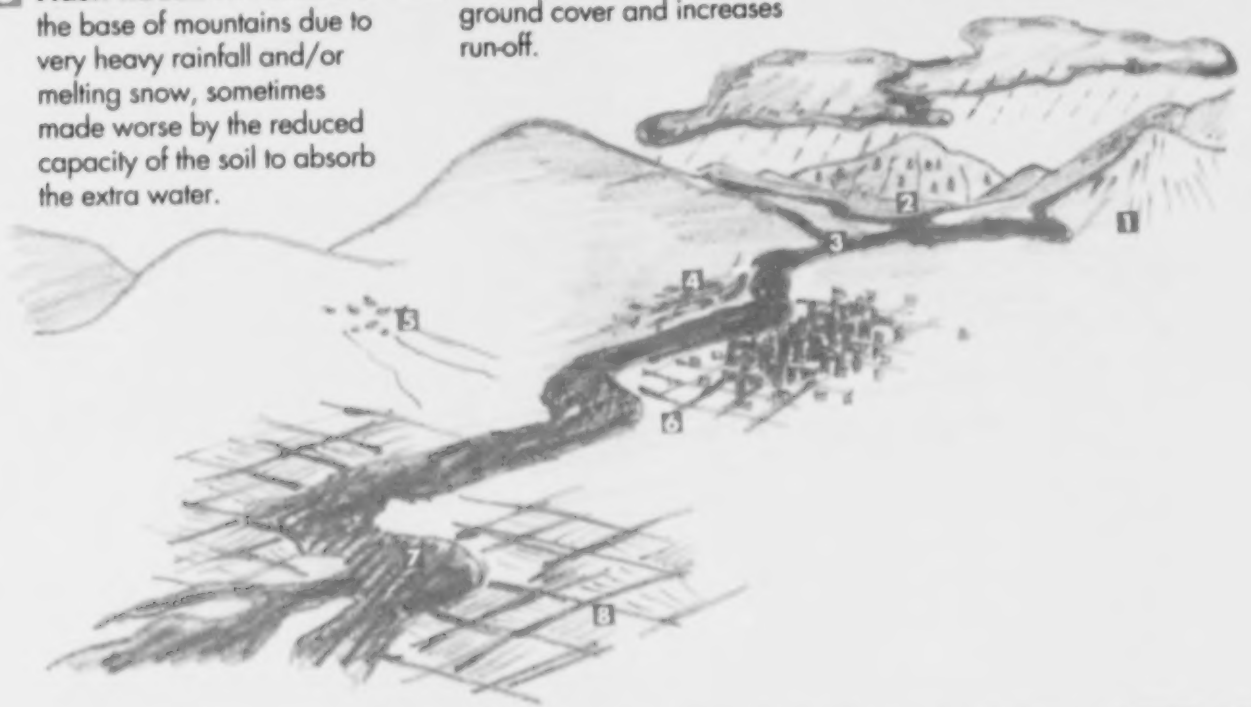
what causes a flood?

Most disasters are not entirely natural. Human activity can increase their risks and insufficient attention makes their effects much more severe. Study the sketch below and find out what causes a flood and what can be done to lessen damage from it. Ask your teacher if you find anything difficult to understand.

- 1 Poor farming techniques** increase soil erosion.
- 2 Deforestation of slopes** increases run-off.
- 3 Flash floods** are created at the base of mountains due to very heavy rainfall and/or melting snow, sometimes made worse by the reduced capacity of the soil to absorb the extra water.

- 4 Sediment** from erosion settles to the river bottom and gradually raises flood levels in the river.
- 5 Overgrazing** reduces ground cover and increases run-off.

- 6 Flood plain**
- 7 Delta**
- 8 Flood plains in rural areas** often attract farmers because of fertile land.



how an earthquake damages a house

1



A vulnerable house consists of heavy materials stacked in place without a continuous frame for reinforcement.

2



The house sways with the motion of the earth during an earthquake.

3



The house cannot bear the growing pressure created by the continuous motion.

4



The roof and walls of the house collapse.

GET READY BEFORE IT STRIKES

Disaster situations differ from country to country and from community to community, but this wallsheet, originally produced in New Zealand, will give you some ideas about what you can do if your area is hit by one of the natural disasters mentioned below. If you find something difficult to understand, ask your teacher to explain. Later, tell your parents and others what you have learned.

earthquake

IMMEDIATE ACTION

Indoors:

- **Do not rush outside.** Get your family into doorways, under tables, or, if they are bedridden, under their beds; keep away from windows and chimneys.

Outdoors:

- **Keep clear** of buildings, high walls or dangling electric wires. If you are in a city, seek shelter under archways or doorways but **do not** re-enter damaged buildings.

Driving:

- If you feel the earthquake when riding in a car or bus, ask the driver to pull over and stop. Stay inside the vehicle.

AS SOON AS YOU CAN

Remind your parents (or other adults) to:

- **Put out** all domestic fires and turn off heaters.
- **Turn off** electricity, gas, home heating oil and water if the house is damaged.
- **Leave the house** if a fire starts that cannot be put out at once.
- **Leave the house** if a gas leak is detected **after** the gas is turned off.
- **Save water.** Fill all emergency containers.
- **Free pets** and domestic animals (dogs, cats, cows, etc.)

flood

- **Listen to the radio** for advance information and advice.
- **Ask adults to disconnect all electrical appliances** and move all valuable personal and household goods and clothing out of reach of flood water, if you are warned or if you suspect that flood waters may reach the house.
- **Help move** vehicles, farm animals and movable goods to the highest ground nearby.
- **Prevent dangerous pollution** — move all insecticides out of reach of the water.
- Ask adults to **turn off** electricity, home heating oil and gas if you have to leave the house.
- **Lock** all outside doors and windows if you have to leave the house.
- **Do not enter** flood waters on foot or in a car if you can avoid it.
- **Never wander around** a flood area on your own.

tsunami

(Commonly called "tidal waves")

If you live in a low-lying area near the sea or an estuary:

- **Listen to the radio** for advance information and advice.
- **Do the same things** you would do for a flood.
- **Move** to high ground or as far inland as possible if a tsunami or tidal wave warning is given.
- **Keep away** from streams flowing into the sea.
- **Never** go down to the beach. If you see a tidal wave it will be too late to escape.

cyclone

(Hurricanes and typhoons are other names for tropical cyclones)

- **Listen to the radio** for advance information and advice. Allow considerable margin for safety. A storm may change direction, speed or intensity within a few hours, so stay tuned to the radio for updated information.

PREPARATION

If storm-force winds or severe gales are forecast for your area:

- **Store or secure** loose boards, corrugated iron, rubbish tins or anything else that could become dangerous.
- **Tape up** large windows to prevent them from shattering.
- **Move** to the nearest storm shelter (if your house is not storm-resistant) or assist your parents in evacuating the area if this is ordered by the appropriate government agency.

When the storm hits

- **Stay indoors** and take shelter in the strongest part of your house.
- **Listen to the radio** and follow instructions.
- **Open windows** on the sheltered side of the house if the roof begins to lift.
- **Find shelter** if you are caught out in the open.
- **Do not go outside** or onto a beach during a lull in the storm.

Cyclones are often accompanied by large storm surges from the ocean or lakes, and the precautions listed above for floods should be taken if you live near the coast.

volcanic activity

- **Listen to the radio** for information and advice.
- **Find shelter**, but NOT in a building with a low-pitched roof if heavy ash is falling.
- **Avoid** basements or confined spaces where dangerous gases may accumulate.
- **Move** to high ground, if you are in the open. Keep well above the shoreline of large lakes.
- **Wear** substantial covering over your head and body if you have to move in an ash shower. **Breathe through a handkerchief**; carry a flashlight even if it is daytime; and **move** as quickly as you can away from the eruption.



(Source: Disaster Prevention and Mitigation (Vol. II), United Nations, 1984)

suggestions for teachers

The 1992 Student Leaflet is devoted to an important concern of the United Nations: the International Decade for Natural Disaster Reduction (IDNDR). The following suggestions are intended to stimulate your own ideas for teaching about the United Nations and disaster reduction and for helping students from 8 to 14 years old to understand their role in today's world.

1 why? GOALS AND OPPORTUNITIES

Disaster prevention and relief is one aspect of United Nations work that even quite young students may find easy to understand and follow. Since they may be exposed to natural hazards of one kind or another, learning about natural disasters and the observance of the International Decade aimed at their reduction can fit into many curricula.

Learning about natural disasters and the International Decade will help students:

- appreciate the power of natural forces in the environment;
- learn about disaster preparedness and prevention;
- learn about the humanitarian and relief work of the United Nations;
- understand about community solidarity in times of distress;
- discover that everyone can make an active contribution to his or her own safety and that of the community.

2 what? FOCUS AND THEMES

Multidisciplinary content: Disaster-related topics can be included in many existing curriculum subjects. In *geography*, students may discover areas prone to floods, cyclones, earthquakes or volcanic activity. In *science*, they can study how and why different natural forces become violent and cause disasters. In *history* and *social studies*, they can study how community members cooperate to improve the well-being of all and help one another in times of distress.

Dealing with today's disasters: There will be natural disasters as long as natural hazards exist. On the average, 20 major disasters of various types occur in the world each year. The present surge in population is magnifying the extent of these disasters. Over the past two decades, they have claimed perhaps 3 million lives and caused upheaval and dislocation for at least 1 billion people. Almost 95 per cent of disaster-related deaths occur among the poor in developing countries, where two thirds of the world's people live. Annual damage is estimated at more than \$50 billion worldwide, but much of this could be avoided by appropriate preparedness. Human activities, such as poor farming techniques and deforestation, often aggravate the risks. The poor are among those most affected.

Growing capabilities: Fortunately, expanding scientific knowledge and technologies allow us to forecast most natural hazards. Satellites can monitor seismic readings and other potential danger signs, databases can store disaster information, hazardous areas can be mapped. Thus, people can be warned in advance about an impending disaster and adequate planning can minimize risks.

Preparedness and prevention: Both short- and long-term preparedness and prevention measures can be adopted to reduce damage from natural disasters. Governments and communities can take temporary protective measures by mobilizing medical teams and fire-fighting services or, in extreme cases, by evacuating the population from danger areas. Long-term protective measures, such as earthquake-resistant design and construction of essential services, appropriate shelters, industrial plants, urban lifelines, etc., may also be planned and gradually implemented.

International cooperation: The United Nations, through the Office of the Emergency Relief Coordinator, is leading international cooperation in disaster relief and related matters (see box).

3 how? APPROACHES AND METHODS

Learning from reality: The most effective teaching about disasters uses examples of actual situations related to the students' own experience. A local disaster can be studied through newspaper stories, personal accounts or talks with survivors.

If you cannot use a local example, your students can gather detailed information on a disaster in some other place and then use their imagination to dramatize it. They can study the disaster from early signs,

preparations made (what and by whom), warnings and actions taken, the nature of the disaster and damage it caused, and finally what was done to recover from it and what may be done to reduce damage from similar disasters in future and in other places.

The class can be asked to take part in the dramatization of a radio programme. Episodes could include: an observer's description of the disaster while it is occurring, "situation reports" by the Office of the Emergency Relief Coordinator, an interview with a family in a refugee shelter, and the type of assistance requested (e.g. cash, medical supplies, emergency services for relief and rehabilitation).

Positive approaches: A human-centred and positive approach will be useful in teaching about disasters. The emphasis should not be placed on visuals of destruction and suffering, however realistic they may be. Rather, the students should learn about the way a community prepares and responds to the sufferings of its own members through cooperation. By highlighting the role of the United Nations, the common links among all nations of the world can also be stressed.

Active methods: From the wallsheet included in this leaflet, students can learn what each of them should do before, during and after a disaster. They should also have the opportunity to take *practical actions*. They can help their families, schools and local communities prepare for potential disasters. Students may also be encouraged to take part in such actions as collecting funds or clothes for victims of a recent natural disaster. This can give them the sense that their local efforts are part of a world-wide undertaking.

4 where? SUGGESTED RESOURCES

IDNDR secretariat, the Department of Humanitarian Assistance/UNDRO and the Department of Public Information of the United Nations have produced a large number of information materials on IDNDR and its related themes. Various United Nations specialized agencies, like the Food and Agriculture Organization of the United Nations (FAO), the United Nations Development Programme (UNDP), the United Nations Children's Fund (UNICEF), the World Health Organization (WHO) and the World Meteorological Organization (WMO), have also produced IDNDR-related publications.

To obtain these and other materials contact your nearest United Nations Information Centre or Service. You can also write to the *Public Inquiries Unit, Department of Public Information, Room GA-057, United Nations, New York, NY 10017, USA.*

International Decade for Natural Disaster Reduction

Since it was founded in 1945, the United Nations on many occasions has provided assistance to countries hit by disasters caused by nature and by human activities. To coordinate its growing involvement in the area, the United Nations General Assembly in 1971 established the Office of the United Nations Disaster Relief Coordinator (UNDRO) as the focal point of the United Nations system's disaster relief activities. At times of disaster, UNDRO helps assess the damage and evaluate emergency needs, mobilizes aid from the international community and coordinates relief activities. In 1992, UNDRO was expanded into the Office of the Emergency Relief Coordinator, which now assumes responsibility for all emergency relief activities.

To encourage concerted global efforts to reduce the impact of natural disasters, the General Assembly in December 1989 proclaimed the 1990s the *International Decade for Natural Disaster Reduction (IDNDR)*. The Decade mainly addresses the natural hazards that create sudden disasters, including the impact of disasters caused by drought and locust infestation. IDNDR aims to share among all countries the technology to monitor natural hazards and quickly distribute information, as well as initiate programmes and guidelines for reducing the impact of natural disasters. To further draw attention to the efforts being made, the United Nations designated the second Wednesday of October each year as the International Day for Natural Disaster Reduction.

In close collaboration with UNDRO, a secretariat for IDNDR has been set up in Geneva which is now part of the Office of the Disaster Relief Coordinator. A scientific and technical committee, composed of up to 25 high-level specialists, provides guidance on substantive issues, and a special high-level council, composed of well-known personalities, assists in creating global awareness about natural disaster reduction.

For more information, write to: DHA/UNDRO, Palais des Nations, 1211 Geneva 10, Switzerland.